

IN THE CLAIMS

1. (withdrawn) A composition comprising:

a metal-chelating ligand including a tetraazacyclododecane macrocycle ring core, and at least two non-identical substituents covalently bonded to the ring core, wherein each of the at least two non-identical substituents contain a group capable of binding to a cell receptor.

2. (withdrawn) The composition of claim 1 wherein at least one of the non-identical substituents is covalently bound to a ring nitrogen.

3. (withdrawn) The composition of claim 1 wherein at least one of the non-identical substituents is covalently bound to a ring carbon.

4. (withdrawn) The composition of claims 1 wherein at least one of the non-identical substituents are covalently bound to the ring via an alkyl linking group, an alkyl carbonyl linking group, or an alkyl amide linking group.

5. (withdrawn) The composition of claim 1-4 wherein the tetraazacyclododecane macrocycle ring core is chelated to a metal ion.

6. (withdrawn) The composition of claim 5 wherein the metal ion is selected from the group of metals consisting of: La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, and Sc.

7. (withdrawn) A composition comprising a metal-chelating ligand including tetraazacyclododecane macrocycle having one or more alkyl carboxylic acids or salts thereof appended to the ring nitrogen(s), and

a  $\alpha_v\beta_3$  receptor binding ligand covalently bonded to a ring nitrogen of the metal-chelating ligand via an alkyl linking group, an alkyl carbonyl linking group, or an alkyl amide linking group.

8. (withdrawn) The composition of claim 7 tetraazacyclododecane macrocycle includes two alkyl carboxylic acids or salts thereof each attached to one ring nitrogen.

9. (withdrawn) The composition of claim 7 wherein the alkyl carboxylic acid is acetic acid.

10. (withdrawn) The composition of claims 7 wherein the alkyl component of the alkyl carboxylic acid or salt thereof is a straight chain, a branched chain, cyclic or aromatic hydrocarbyl group having between 1-5 carbon atoms, and can be substituted with one or more of the following substituents, hydrogen, C1-C4 alkyl, C1-C4 branched alkyl or aromatic or heteroaromatic group or a combination of these groups.

11. (withdrawn) The composition of claim 7 wherein the alkyl amide linking group is  $-(CH_2)_nCO_2-$  wherein n is selected to be between 1 and 6.

12. (withdrawn) The composition of claim 7 wherein the alkyl component of the alkyl linking group, the alkyl carbonyl linking group and the alkyl amide linking group is  $-(CH_2)_nCO_2-$  wherein n is selected to be between 1 and 6.

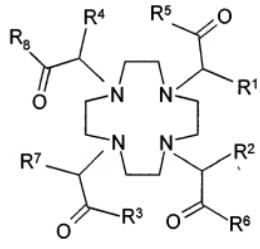
13. (withdrawn) The composition of claim 7 wherein the alkyl component of alkyl linking group, the alkyl carbonyl linking group and the alkyl amide linking group is a straight chain, a branched chain, cyclic or aromatic hydrocarbyl group having between 1-6 carbon atoms, and can be substituted with one or more of the following substituents, hydrogen, C1-C4 alkyl, C1-C4 branched alkyl, aromatic, or heteroaromatic group.

14. (withdrawn) The composition of claims 7 comprising a metal ion complexed to the tetraazacyclododecane macrocycle.

15. (withdrawn) The composition of claims 7 wherein the metal ion is radioactive.

16. (withdrawn) The composition of claim wherein the metal ion is selected from the group consisting of: La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, and Sc.

17. (currently amended) A composition comprising: a metal-chelating ligand including a tetraazacyclododecane macrocycle having the formula:



where  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ , and  $R^8$  are selected from the group consisting of -H, -OH,  $-CH_2G$ ,  $-CH_2COOH$ , and  $-NH(CH_2)_nG$ ; n is an integer ranging from about 2 to about 6;

and G is a quanidine substituent-one or more alkyl carboxylic acids or salts thereof appended to the ring nitrogen(s), and

— a guanidine substituent covalently bonded to a ring nitrogen of the metal chelating ligand via an alkyl linking group, an alkyl carbonyl linking group, or an alkyl amide linking group.

18. (canceled)

19. (previously presented) The composition of claim 17 comprising a metal ion complexed to the tetraazacyclododecane macrocycle.

20. (currently amended) The composition of claim 179 wherein the metal ion is radioactive.

21. (currently amended) The composition of claim 179 wherein the metal ion is selected from the group consisting of: La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, and Sc.

22. (withdrawn) A method of inhibiting tumor cell growth, said method comprising:  
administering to the tumor cells an effective amount of a composition including a compound having a metal-chelating ligand including tetraazacyclododecane macrocycle having one or more alkyl carboxylic acids or salts thereof appended to the ring nitrogen(s), and a  $\alpha,\beta_3$  receptor binding ligand covalently bonded to a ring nitrogen of the metal-chelating ligand via an alkyl group linking group, an alkyl carbonyl linking group, or an alkyl amide linking group.

23. (withdrawn) The method of claim 22 wherein the composition comprises a radioactive metal ion chelated to the metal-chelating ligand.

24. (withdrawn) The method of claims 22 wherein the tumor cell is selected from the group consisting of osteosarcomas, neuoroblastomas, glioblastomas, melanomas, and carcinomas.

25 (withdrawn) A method of inhibiting tumor cell growth, said method comprising administering to the cells a metal-chelating ligand including

tetraazacyclododecane macrocycle having one or more alkyl carboxylic acids or salts thereof appended to the ring nitrogen(s), and

a guanidine substituent covalently bonded to a ring nitrogen of the metal-chelating ligand via an alkyl linking group, an alkyl carbonyl linking group, or an alkyl amide linking group.

26. (withdrawn) The method of claim 25 wherein the composition comprises a radioactive metal ion chelated to the metal-chelating ligand.

27. (withdrawn) The method of claims 25 wherein the tumor cell is selected from the group consisting of osteosarcomas, neuoroblastomas, glioblastomas, melanomas, and carcinomas.